

Amendment  
Serial No. 10/088,497  
Attorney Docket No. 020181

**REMARKS**

Claims 1-4 and 6-10 are pending in the present application. Claims 1, 2 and 6-10 are rejected. Claim 5 is cancelled herein. Claims 1 and 6 are herein amended.

**Applicant's Response to Claim Rejections under 35 U.S.C. §102**

**Claims 1, 2, 6, 7, 9 and 10 were rejected under 35 U.S.C. 102(e) as being anticipated by Cownden et al. (U.S. Patent No. 6,316,134).**

The Office Action highlights the water circulation subsystem for circulating and recovering water within the fuel cell electric power generation system for humidification of the desulfurized fuel stream and the pressurized oxidant stream and for cooling. In particular, the Office Action highlights water tank 236 and humidifier 252 of **Cownden**. The Office Action considers the humidifier 252 as being drained from the bottom portion of water tank 236.

In fact, **Cownden** actually discloses the opposite of the Office Action's assertions. As shown in Figure 2, the water tank 236 collects liquid water recovered from humidifier 252. Some of the water from humidifier 252 is directed to cooling device 244 and 248 and is returned to water tank 236 through the cathode exhaust stream. Because the water is drained from humidifier 252 into tank 236 without discharging to the outside of the system, impurities are accumulated.

On the other hand, the present invention discharges the exhaust water to the outside of the system, so that no impurities are accumulated. In order to more clearly recite this, Applicant herein amends the claims to clarify that the washing liquid is discharged from the fuel cell

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apparatus. Applicant respectfully submits that this amendment is sufficient to distinguish over **Cownden**. Favorable reconsideration is respectfully requested.

**Applicant's Response to Claim Rejections under 35 U.S.C. §103**

**Claims 1, 2 and 5 were rejected under 35 U.S.C. §103(a) as being unpatentable over Chen et al. in view of Folsom et al.**

In this rejection, the Office Action acknowledges that **Chen et al.** does not expressly teach a means for periodically replacing the water in the tank wherein the water is discharged through a lower part of the washing liquid tank. **Folsom et al.** is applied for its disclosure of a drain valve employed in a hot water tank assembly.

In response, Applicant amends claim 1 to require a water tank for reserving cooling water of the fuel cell. Such a water tank is distinguishable from the hot water tanks of the cited art. In regard to the Office Action's assertion that the "cooling water" limitation is given little patentable weight, Applicant respectfully argues that one of ordinary skill in the art would not have combined the cited references to obtain the claimed invention which supplies cooling water. The cited art teaches away from cooling water since the cited art is directed to heating water.

Furthermore, Applicant amends claim 1 to include the recitations of claim 5. The Office Action states that **Chen** does not expressly teach that the water supplied to the hot water tank is "treated." The Office Action argues that it would have been obvious to utilize treated water in order to provide high purity water for use in the building and for humidifying the fuel cell air.

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Generally, the water used in large quantities as hot water for buildings is city water. In **Chen**, the water supplied to the hot water tank is not “treated water.” Figure 7 of **Chen** shows that city water is used for hot water, and cooling water (treated water) is used separately from the city water. The “treated water” is used as the cooling water for the fuel cell for preventing a slight current through the cooling water in the stack of a single cell. However, **Chen** does not teach that the treated water is used for hot water tank 300. Because it would be too expensive to treat city water for a building’s hot water tank, the use of treated water would not have been obvious to one having ordinary skill in the art. Favorable reconsideration is respectfully requested.

**Claim 8 was rejected under 35 U.S.C. §103(a) as being unpatentable over Gyoten et al. in view of JP 6-296817.**

Applicant respectfully submits that this rejection is overcome by the above amendment of claims 1 and 6 to clarify that the washing liquid is discharged from the fuel cell apparatus. A combination of the references does not appear to teach or suggest this feature of the invention.

Furthermore, the Office Action considers the disclosure “the condensed water is supplied to the bubbler tank in order to prevent the tank from running out of water” of **Gyoten** to be anticipatory of the “means for replacing the washing liquid reserved in said washing liquid tank” recited in claim 6.

However, the means in **Gyoten** is not a “means for replacing” but a “means for supplying.” The “means for replacing” requires both a means for supplying and a means for

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discharging. **Gyoten** discloses only a means for supplying. Since the water in the tank is reduced by bubbling, supplying is needed. Therefore, “the condensed water is supplied to the bubbler tank in order to prevent the tank from running out of water” in **Gyoten** is not anticipatory of the “means for replacing the washing liquid reserved in said washing liquid tank” recited in claim 6. Therefore, the combination of references does not teach or suggest the invention as claimed.

**Claim 8 was also rejected under 35 U.S.C. 103(a) as being unpatentable over Cownden et al. in view of JP 6-296817.**

In **Cownden**, the water discharged from the humidifier 252 is returned to the tank 236 and is not discharged outside the system. Thus, in **Cownden**, impurities are accumulated in the water tank. The treated water is not supplied to humidifier 252. Since **Cownden et al.** does not appear to teach or suggest that washing liquid is charged from the fuel cell apparatus, the claim amendments discussed above are sufficient to overcome this rejection. Favorable reconsideration is respectfully requested.

For at least the foregoing reasons, the claimed invention distinguishes over the cited art and defines patentable subject matter. Favorable reconsideration is earnestly solicited.

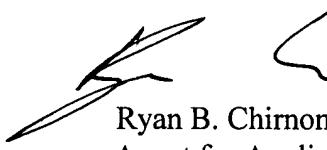
Should the Examiner deem that any further action by applicant would be desirable to place the application in condition for allowance, the Examiner is encouraged to telephone applicant's undersigned agent.

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If this paper is not timely filed, Applicant respectfully petitions for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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